Summary Report of the World Trade Center Technical Review Panel Meeting

July 26, 2004

FINAL REPORT: 08/16/04

Prepared for:

Office of the Science Advisor
U.S. Environmental Protection Agency
Washington, DC

Prepared by:

Eastern Research Group, Inc.
110 Hartwell Avenue
Lexington, MA 02421

NOTICE

This report was prepared by Eastern Research Group, Inc., an EPA contractor, as a general record of discussion held during the third meeting of the World Trade Center Technical Review Panel held July 26, 2004 at St. John's University. This report captures the main points and highlights of the meeting. It is not a complete record of all details discussed, nor does it embellish, interpret, or enlarge upon matters that were incomplete or unclear. Statements represent the individual view of each meeting participant, and may or may not represent the analyses or positions of EPA.

CONTENTS

ACRONYMS

ACM	Asbestos Containing Material
CBPR	Community-Based Participatory Research
COPC	Contaminants of Potential Concern
DEP	Department of Environmental Protection
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPIC	Environmental Photographic Interpretation Center
GIS	Geographic Information Systems
HVAC	Heating, ventilation, and air conditioning
LMDC	Lower Manhattan Development Corporation
MMVF	man-made vitreous fibers
NCEA	National Center for Environmental Assessment
NIEHS	National Institute of Environmental Health Sciences
NYC	New York City
NYU	New York University
PAH	Polycyclic Aromatic Hydrocarbons
OSHA	Occupational Safety and Health Administration
USGS	U.S. Geological Survey
WTC	World Trade Center

EXECUTIVE SUMMARY

After the collapse of the World Trade Center (WTC) and the subsequent release of contaminants into the environment, the U.S. Environmental Protection Agency (EPA), other federal agencies, New York City (NYC), and New York State public health and environmental authorities focused on numerous cleanup, dust collection, and ambient air monitoring activities to ameliorate and better understand the human health effects of the disaster. While these monitoring and assessment activities were ongoing, EPA began planning for a program to clean and monitor residential apartments. Residents impacted by the WTC dust and debris were eligible to request federally funded monitoring and/or cleaning of their residences. The cleanup continued into the summer of 2003, by which time EPA had cleaned and monitored 3,400 apartments and monitored an additional 800 apartments.

Since then, EPA convened a technical panel of experts who have been involved with the WTC assessment activities to provide advice on the effectiveness of these and related programs. Dr. Paul Gilman, EPA Science Advisor, serves as the chairperson, and Dr. Paul Lioy, Professor of Environmental and Community Medicine at the Environmental and Occupational Health Sciences Institute of the Robert Wood Johnson Medical School-University of Medicine and Dentistry of New Jersey (UMDNJ) and Rutgers University, serves as vice chair. This report summarizes the fifth technical panel meeting in New York City, held at St. John's University in Saval Auditorium on July 26, 2004.

Dr. Gilman facilitated the meeting and presented opening comments on the agenda for the meeting. The agenda for this meeting is presented below:

- Opening Remarks
- Report from Signature Subgroup and Discussion
- Presentation on Polycyclic Aromatic Hydrocarbons in Dusts
- Overview Presentation on Sampling and Analyses Proposal Followed by Panel Discussion
- Morning Public Comments/Question and Answer Session
- Report from Community Participation Committee
- Panel Discussion on Sampling and Analysis Proposal
- NIEHS Briefing on WTC Research Activities: Exposure Assessment, Health Effects, and Public Outreach
- Presentation by Lower Manhattan Development Corporation Representative
- Public Comments/Question and Answer Session
- Adjourn

Individual panelists proposed the following key conclusions and suggestions during the meeting:

- The Signature Development subgroup should consider the different sources of dust in the development of the signature, possibly developing a distinct signature for each source of dust.

- The sampling plan and the Signature Development subgroup should examine the effect of HVAC processes on the concentration of PAH in the HVAC.
- The sampling plan should consider the differing paths of the plumes generated as a result of different processes at the WTC (e.g., the collapse, the initial combustion, the long-term combustion).
- The sampling plan should further consider inclusion of lead and mercury sampling and biomonitoring to meet public health interests.
- The sampling plan should consider sampling in right angle spaces in HVAC systems.
- EPA should widely advertise the sampling program to assist in recruiting building volunteers for the sampling plan.
- EPA should consider including federal buildings in the sampling plan.
- EPA should review the usefulness of passive air sampling versus aggressive air sampling.
- A sampling and analysis protocol should be drafted before the next technical panel meeting, including analytes, personnel, and quality assurance procedures.
- The budgetary process for the function of the technical panel should be made transparent.
- EPA and DEP should become actively involved in the plans for the deconstruction of 130 Liberty Street.
- LMDC, Deutsche Bank, and other related parties should release all data pertaining to 130 Liberty Street to allow community review prior to initiating deconstruction.
- LMDC should adopt a formal process to receive and interact with the affected community.
- LMDC, Gilbane, and any other related parties should release the protocol for removing contaminated items from the deconstruction effort.

1. INTRODUCTION

After the collapse of the World Trade Center (WTC) and the subsequent release of contaminants into the environment, the U.S. Environmental Protection Agency (EPA), other federal agencies, New York City (NYC), and New York State public health and environmental authorities focused on numerous cleanup, dust collection, and ambient air monitoring activities to ameliorate and better understand the human health effects of the disaster. While these monitoring and assessment activities were ongoing, EPA began planning for a program to clean and monitor residential apartments. Residents impacted by the WTC dust and debris were eligible to request federally funded monitoring and/or cleaning of their residences. The cleanup continued into the summer of 2003, by which time EPA had cleaned and monitored 3,400 apartments and monitored an additional 800 apartments. Since then, EPA has been developing a draft sampling plan to study the contamination and recontamination of spaces in lower Manhattan that may have been contaminated by the WTC disaster.

EPA convened a technical panel of experts who have been involved with the WTC assessment activities to provide advice on the effectiveness of these and related programs. Dr. Paul Gilman, EPA Science Advisor, serves as the chairperson, and Dr. Paul Lioy, Professor of Environmental and Community Medicine at the Environmental and Occupational Health Sciences Institute of the Robert Wood Johnson Medical School-UMDNJ and Rutgers University, serves as vice chair. Members of the panel include representatives from the federal agencies directly involved in the air quality response and monitoring, the New York City Departments of Health and Environmental Protection, and outside experts.

EPA's goals in forming this panel and holding the current and planned meetings are:

- To obtain more input on ongoing efforts to monitor the situation for New York residents and workers impacted by the collapse of the WTC.
- To help guide EPA's use of the available exposure and health surveillance databases and registries to characterize any remaining exposures and risks, identify any unmet public health needs, and recommend any steps to further minimize the risks associated with the aftermath of the WTC attacks.

Five technical panel meetings and one conference call have been held to date:

- March 31, 2004, at the Alexander Hamilton U.S. Customs House;
- April 12, 2004, at the Tribeca Performing Arts Center at the Borough of Manhattan Community College;
- May 12, 2004, conference call;
- May 24, 2004, at Saval Auditorium at St. John's University;
- June 22, 2004, at Saval Auditorium at St. John's University; and
- July 26, 2004, at Saval Auditorium at St. John's University.

This report summarizes the presentations and panel discussions at the July 26 technical panel meeting. Information on each of these meetings is provided on EPA's website (http://www.epa.gov/wtc/panel).

1.1 Panel Attendees

The following panel members were not present at this technical panel meeting:

- Commander Peter W. Gautier
- Jessica Leighton
- Frederica Perera

Commander Meredith Austin served as an alternate for Commander Peter Gautier. Commander Austin is Commander of the National Strike Force for the United States Coast Guard, overseeing the Atlantic, Gulf and Pacific Strike Teams, the Public Information Assist Team, and the National Preparedness for Response Exercise Program (PREP).

Christopher D'Andrea served as an alternate Panelist for Jessica Leighton. Mr. D'Andrea is a Certified Industrial Hygienist working with the New York City Department of Health, Office of Environmental and Occupational Disease and Epidemiology. Additionally, Marc Wilkenfeld, a professor of medicine at the Columbia University Health Sciences Division, sat with the panel at the request of City Councilman Allen Gerson.

1.2 Purpose and Agenda

The purpose of this technical panel meeting was to continue discussions on specific elements that comprise the draft sampling plan. Dr. Gilman opened the meeting at 9:45 a.m. and summarized the purpose and agenda for the meeting. The agenda for this meeting is presented below:

- Opening Remarks
- Report from Signature Subgroup and Discussion
- Presentation on Polycyclic Aromatic Hydrocarbons in Dusts
- Overview Presentation on Sampling and Analyses Proposal Followed by Panel Discussion
- Morning Public Comments/Question and Answer Session
- Report from Community Participation Committee
- Panel Discussion on Sampling and Analysis Proposal
- NIEHS Briefing on WTC Research Activities: Exposure Assessment, Health Effects, and Public Outreach
- Presentation by Lower Manhattan Development Corporation Representative
- Public Comments/Question and Answer Session
- Adjourn

2. WELCOME, PURPOSE, AND OPENING REMARKS

Dr. Paul Gilman, EPA Science Advisor

Dr. Gilman welcomed the participants, reviewed the agenda for the meeting, and introduced Greg Meeker for the first presentation.

3. REPORT FROM SIGNATURE SUBGROUP AND DISCUSSION

Greg Meeker, USGS Research Geologist

Greg Meeker reviewed the status of the signature subgroup work, noting that the USGS will be pursuing the work on the signature related to dust, Drs. Chen and Lippmann will be working on developing the signature related to trace elements, and Dr. Lioy will be conducting analyses on polycyclic aromatic hydrocarbons (PAH). Mr. Meeker presented a map of where the samples were collected that are being used in these signature studies, and presented slides of the microscopic views of the dust indicating glass spheres and fibers.

Mr. Meeker noted that the subgroup will be looking at the samples to note what changes may be present in the samples with different distance, elevation, surface type, and other characteristics, in order to establish the variation or consistency of each signature type with variations in the collected samples. The subgroup will present preliminary results at the September 13, 2004, Technical Panel meeting.

Mr. Meeker noted that several past studies of WTC dust consistently describe the basic components of WTC dust. These studies include three reports, a 2001 USGS report (Lioy 2002), a report by Magee 2003, and a report by Yin 2004. Because the dust signature components are already identified, the subgroup will work to establish how the signature changes with different sample types.

Mr. Meeker reviewed the objectives of the subgroup's work:

- Determine if the signature components are present in background samples.
- Determine at what dilution levels the signature is no longer valid.
- Evaluate if the signature changes with the elevation at which the samples were collected.
- Determine if the signature is consistent with different sample types.
- Evaluate the variability of the signature components from sample to sample.
- Determine if the relationships between signature components and COPCs are consistent.

To meet these objectives, Mr. Meeker suggested that the subgroup would complete the following tasks:

- Obtain additional samples from Deutsche Bank or another similar location;
- Obtain indoor dust samples from Dr. Lioy;
- Create or obtain diluted samples; and

- Develop protocols for collecting new samples that are compatible with the analytical techniques to be used and accurately reflect the level of contamination.

Mr. Meeker concluded his presentation and asked for questions.

Panel Discussion

Lioy agreed to supply Meeker with indoor dust samples. Further, he suggested that dilution samples be created with household dust in addition to the NIST samples that are available, since the household dust samples may provide more typical interference that would be seen in samples collected in the field.

Newman asked Meeker how this approach accounts for the different potential sources of dust (e.g., dust from the collapse vs. dust from combustion products). Meeker clarified that he, Lioy, and Chen will be working on developing a signature for different types of dust sources. Newman noted that secondary sources of WTC dust should also be considered, and reminded the panelists of the requirements for a surrogate:

1) The surrogate must be a component of well-dispersed materials;
2) The surrogate must not have been separated from the rest of the contaminants;
3) The ratio of surrogate to contaminant must be consistent; and
4) The effect of remediation must be consistent with the contaminants as with the surrogate.

Stellman asked for clarification whether a signature has been developed or not. Meeker clarified that the components of a signature have been identified; however, the proportion, error, variability, and loadings are the subject of the subpanel's ongoing work.

4. PRESENTATION ON POLYCYCLIC AROMATIC HYDROCARBONS (PAH) IN DUSTS

Dr. Paul Lioy, Health Sciences Institute, Robert Wood Johnson Medical School University of Medicine and Dentistry of New Jersey

Dr. Lioy stated that PAH were a byproduct of the combustion processes that occurred after 9/11. PAH are important because they can present risks to human health. Dr. Lioy presented a map of where samples were collected in the days after 9/11, and where PAH were found on this map. He noted that the samples confirm that the plume was traveling from west to east. Dr. Lioy presented the particle size distribution of the collected samples, and noted that PAH probably adheres to the larger particles.

Dr. Lioy indicated that his key finding is that there is a signature for PAH in WTC dust, which he confirmed for indoor as well as outdoor samples against regular vacuum cleaner contents. He suggested these findings might be used to support results from another

sample collection.

Panel Discussion

Markowitz asked on what date were the samples collected. Lioy clarified that the outdoor samples were collected in September and the indoor samples were collected in November.

Lippmann asked about the lack of data points shown for the 2.5 to 10 particle size distribution. Lioy clarified that the samples did not contain dust within that size range.

Prezant noted that 400 firefighters were tested for serum levels of PAH within 30 days of the collapse, and no clinical elevation was identified. Prezant asked Lioy if he could comment on the fact that there is clear evidence that the firefighters inhaled dust and subsequently developed biological disease, and yet showed no PAH. Lioy responded that the half-life of PAH in the body is not very long, and he speculates that most of the PAH was trapped in the upper airways. He would be surprised, however, if a firefighter was subjected to a constant concentration of PAH for 30 days, and the PAH-levels did not show an elevation. Unfortunately, he suggested biomarkers do not indicate short-term events very well.

Stellman asked why sample site 10 had low concentrations of PAH compared to the other sites. Lioy was not sure exactly why these samples were lower in concentration; however, he noted that the concentrations varied depending on the location of the sample, and the subgroup will study these variations to see how the signature varies or remains constant given these different concentrations.

Prezant and Lioy discussed the distinction between aerosolized dust, settled dust, and dust collected during the initial event. Lioy stated that the samples for which he presented data are settled dust samples. Also, he noted that dust resulting from the initial combustion, and then the later burning were from different chemical and physical processes. Prezant thought that there may be three distinct signatures for PAH as a result of these different processes, and Lioy agreed this might be true.

McVay Hughes inquired as to the PAH concentrations in the HVAC as a function of HVAC operation and season. Lioy was not sure how these concentrations would be affected, but he said it would depend on a number of factors including the change in temperature in the ventilation system, the maximum temperature which would encourage volatility, and the potential invective processes induced in the HVAC. McVay Hughes questioned the use of the PAH signature in the HVAC unit, and Lioy said he did not know how that would work and the subgroup will have to examine any results they have or will have on PAH in HVAC.

5. OVERVIEW PRESENTATION ON SAMPLING AND ANALYSES PROPOSAL AND DISCUSSION

Matt Lorber, EPA National Center for Environmental Assessment (NCEA)

Matt Lorber from EPA's NCEA presented the revised draft sampling and analysis plan developed in response to the comments received and discussions held during previous technical panel meetings. Mr. Lorber developed this draft plan with EPA Region 2.

Mr. Lorber reviewed the objectives of the revised plan:

- Determine geographic extent of WTC contamination in residential and non-residential buildings; and
- Determine the relationship of the building test results to the cleaning history, HVAC contamination, and other building characteristics.

Mr. Lorber presented an approach for sampling, including identifying the initial area of interest, soliciting building owners to volunteer for sampling selecting hypothetical sample locations using random statistical methods, identifying the nearest volunteered building to that node, and conducting air and dust sampling in several units within the building to characterize the building.

As an example of developing the statistical sampling grid, Mr. Lorber presented a map of the plume in Manhattan as determined by EPA's Environmental Photographic Interpretation Center (EPIC). Using this map as a starting point, Mr. Lorber suggested a polar grid might be applied within the plume area to establish an initial area for sampling, with oversampling toward the center of the grid where the highest contamination is expected.

Mr. Lorber stated that the draft sampling plan includes all types of buildings, including residential, non-residential, public and private buildings. Access must be available to sample a sufficient number of units within the building. At least one unit should be sampled per two floors of each building. The sampling unit may be an apartment, cubicle, office space, or another space, depending on the particular building use type. The areas with heaviest contamination would be targeted within each building.

Mr. Lorber explained that the sampling plan includes wipe sampling and passive air sampling. Additionally, the sampling plan includes sampling the HVAC at the outdoor air inlet, downstream of air filters, air-mixing plenums, and at the HVAC outlet. The samples would be analyzed for asbestos, MMVF, silica, and PAH but not lead and dioxin. Lead would be offered as an analyte at the building owner's request. The results of all testing would be compared to health benchmarks and to the signatures developed.

Lorber also reviewed key components of the WTC signature validation study, noting the following:

- The WTC validation study will be conducted concurrently with the building sampling program.
- The signature development subgroup will provide information on the methodologies to be used for the building sampling program to ensure that the sample collection procedure and sample volume are appropriate.
- The key objective of the validation study is to ensure that the WTC dust did get to the indoor environment in impacted buildings, and equally important, that the signature is not present in background settings.

Panel Discussion

Prezant and Lioy appreciated the new proposal and noted how far the sampling plan has evolved from the initial plan five months ago, including extension of the sampling area, type of buildings, and contaminants of concern. Lioy also asked the community to spend time examining the proposal so that they may make comments to EPA.

Extent of Sampling Locations

Wilkenfeld referred to the EPIC map illustrating the plume, and asked for clarification that this is the extent of the dust deposition according to this sampling plan. Lorber indicated that this map was not intended to illustrate the complete extent of dust deposition from the plume, but rather, one source's delineation of the plume extent on Manhattan Island. He recognized that there was deposition in Brooklyn that is not shown in the EPIC photographs, and this map was intended to be a sample of one way to define the sampling grid using one particular source of data. This map is intended to illustrate the proposal that this first phase of sampling occur south of Houston Street. Then the extent of subsequent sampling could be defined by the results of the first phase of sampling.

McVay Hughes noted that the EPIC photos do not indicate WTC debris deposition in Brooklyn. Gilman agreed that the EPIC maps do not capture the deposition in Brooklyn, and indicated that this represents the proposed extent of Phase 1 sampling only. The extent of Phase 2 sampling would be developed based on these Phase 1 results.

Lippmann and Lorber discussed the distribution of the fire plume versus the path of the dust plume. The EPIC map only presented the path of the dust plume. Newman also commented that the sampling plan should consider or comment upon the differing paths of dust deposition, combustion products, and secondary sources. Lorber noted that the primary deposition from the fire plume was northeast; however, the immediate dust deposition was west to east.

Lippmann noted the large number of samples that this proposal calls for, and asked if EPA is capable of funding such an expansive effort. Gilman responded that EPA has performed cost estimates and is prepared to sample 600 to 800 buildings for the set of COPCs, including lead if requested.

Lead and Mercury Sampling

McVay Hughes suggested that instead of sampling for lead in every building where an owner requested it, EPA could test every apartment with a child under a certain age. Gilman noted the extensive discussion that has occurred regarding lead testing, and requested further comment on this issue. EPA will revise this proposed plan after receiving comments today and will then present the plan to the community to receive their comments.

McVay Hughes asked why mercury was not included as part of the sampling plan. Lorber answered that mercury is not a COPC. Prezant suggested that no sampling occur for lead and mercury, since over 10,000 biomonitoring results for lead and mercury were already conducted and found to indicate no contamination from WTC. Prezant suggested that perhaps the sampling plan could aggressively sample school sites and couple that sampling with biomonitoring. Maddaloni suggested that biomonitoring results might not indicate detectable levels. Lioy cautioned the group in drawing any exposure assessment conclusions with biomonitoring data. Lorber noted that while any lead and mercury testing may not have a direct relationship to the WTC events, the information would be useful to public health interests. Rodenbeck agreed that from a public health standpoint, lead testing would be appropriate.

HVAC Sampling

Newman suggested that HVAC sampling also include right angle dead spaces.

Recruiting Voluntary Participation

Panelists discussed the issue of voluntary participation in the sampling plan. Newman believed that the concept of voluntary participation would skew the sampling results. Lorber agreed this is a consideration, and commented that EPA hopes to alleviate this self-selection bias using the sampling grid methodology. Sampling locations would be randomly and statistically identified using the grid, and the volunteered building closest to that sampling node would be selected as the sampling location. Stellman suggested that EPA advertise the program to get as many volunteers as possible to provide sufficient data to minimize and estimate the bias. Prezant noted that the sampling plan needs the agreement from the community. This agreement could be facilitated by offering assurance that there will be cleanup funded if sampling indicates that cleanup is necessary. Gilman responded that the plan includes comparing the sampling results to the health-based benchmarks. If samples exceeded these benchmarks, then that unit would be considered contaminated and would trigger cleanup activities. The occupant could elect to have EPA provide cleaning or they could elect to conduct their own cleaning.

Prezant asked if federal buildings could be required to participate in the program. Gilman stated that EPA is having discussions with the General Services Administration regarding this issue.

Method of Air Sampling

Individual panelists discussed the proposed air sampling method. Newman recognized the difficulty in soliciting volunteers for testing if aggressive sampling was used; however, he was uncertain of the usefulness of passive air sampling. Prezant agreed that he did not think the results of passive air sampling could be adequately used. Lioy believed that passive air sampling in conjunction with the dust samples would be sufficient to characterize whether or not the unit should be cleaned; however, if the goal of the sampling is to establish "clearance," then aggressive air sampling should be used. Lioy did recognize the difficulty in recruiting volunteers for aggressive sampling. Lippmann requested a more thorough definition of "passive sampling." Further he suggested that if asbestos is the benchmark for the passive air sampling, then he did not suggest that would be useful. Prezant suggested that perhaps federal buildings could be aggressively sampled.

Protocol for Sampling and Analysis

Panelists discussed how to form a protocol for sampling and analysis. Meeker suggested that the analytes to be sampled, the sampling protocol, and the quality assurance procedures should be proposed before the next meeting. Gilman asked if any panelists could form a subgroup to address these issues. McVay Hughes volunteered to participate, and Lioy noted that the sampling subgroup might be formed from the same members as the signature subgroup. Meeker noted, however, that the signature subgroup is already tasked with a significant amount of work and may not be available to accept additional work.

Health-Based Benchmarks

Gilman stated that he felt strongly that the benchmarks against which an action would be taken must be established prior to initiating a sampling program. Lioy noted that there were the health-based benchmarks established for the COPCs by the earlier sampling program. Lippmann also noted that the signature might be somewhat developed by then. Maddaloni noted that the panel did not endorse the asbestos settled dust benchmark; however, the WTC individual panelists could review these materials to obtain an independent opinion.

6. REPORT FROM COMMUNITY PARTICIPATION COMMITTEE
Catherine McVay Hughes, Community Liaison
Micki Siegel de Hernandez, Community Liaison

Catherine McVay Hughes and Micki Siegel de Hernandez presented a report from the Community Participation Committee, reflecting the results of a community meeting held on July 15 and activities undertaken during July 2004.

Ms. McVay Hughes reviewed the accomplishments of the committee during July, which include:

- Conducted multiple conference calls with EPA to discuss funding for community group;
- Received a task order from EPA for:
    - CBPR facilitator;
    - Technical consultants;
    - Outreach facilitator; and
    - Operational expenses.

The community subgroup continues to be concerned about the WTC technical panel process, requesting:

- Community involvement in development of an agenda;
- Transcripts of all meetings; and
- Unmet health needs discussions at all meetings.

Additional health concerns were addressed, including:

- Lack of knowledge of the extent or nature of WTC contamination;
- Lack of knowledge of the extent or nature of WTC-related illnesses;
- Inadequate funding for WTC Worker and Volunteer Medical Screening and Monitoring programs;
- Lack of access to medical care;
- Evaluation of medical needs for sensitive populations;
- Medical and health information needs to be supplied to the community and medical providers; and
- Sampling, cleanup, and health summary information should be disseminated to the community (e.g., in a GIS database application).

Ms. Siegel de Hernandez explained further that the community is concerned about recontamination due to planned demolition and construction activities at or near the WTC site, and requested that EPA be actively involved in the demolition plans for Deutsche Bank and any other planned WTC-related demolitions.

Panel Discussion

Newman commented that this presentation and the public comment presentation on Deutsche Bank indicates a level of expertise that is available from the community, and the technical panel should consider their concerns and comments very seriously.

Stellman asked for clarification on the reconstruction status of the WTC 7 building. McVay Hughes clarified that WTC has been reconstructed and is located between the

Verizon Building and 90 Church Street, immediately adjacent to Fiterman Hall. Siegel de Hernandez further noted that the original WTC 7 building collapsed.

Prezant asked if details on the funding in the contract are available. Gilman indicated that he has that information and can provide it to whoever is interested. Prezant noted that this information is relevant given the tremendous amount of time that many members of the technical panel have volunteered to this effort. Siegel de Hernandez commented that they appreciate the technical expertise that is available during these meetings; however, during community meetings, there are additional needs for technical consultants to explain many of these very technical issues. McVay Hughes further noted that these funds were based on the Technical Assistance Grants available for Superfund sites. Newman agreed that this issue is very important to the technical panel as well as the community, since there are budgetary issues that have not yet been resolved with the panel's work when time cannot be volunteered. He noted that the budgetary process for the function of this panel is not transparent and it should be.

To close this discussion, Rodenbeck reminded the panel that as of the end of August the WTC exposure registry will be closed to new registrants, and encouraged the community to register as soon as possible.

7. NIEHS BRIEFING ON WTC RESEARCH ACTIVITIES: EXPOSURE ASSESSMENT, HEALTH EFFECTS, AND PUBLIC OUTREACH

Dr. Claudia Thompson, Scientific Program Administrator, National Institute of Health Sciences (NIEHS)

Dr. Thompson reviewed the timeline of NIEHS sample collection activities after 9/11, and funding the NIEHS received through Congressional appropriations to conduct such work from September 2001 through July 2003. She reviewed the initial activities conducted immediately after 9/11, including awarding funds to grantees for exposure assessments, development of fact sheets, initiation of epidemiology studies and collaborations with other agencies and universities. Additionally, Dr. Thompson reviewed the activities that are ongoing at NIEHS, including indoor air quality exposure assessment, air and dust sample collection and analysis, and analysis of samples from New York Harbor and parks.

Dr. Thompson mentioned different types of exposure models that are used to understand the path of the plume, which include GIS modeling, remote sensing, and spatiotemporal mapping. She reviewed the results of human health effects research in worker populations and the general population, and she noted that most of their research dealt with pregnancy, respiratory health, and mental health issues. The ongoing general population research includes:

- New-onset asthma symptoms;
- Epidemiological studies of pregnant women;
- Reproductive outcome studies;

- Qualitative risk assessment to assess perceived community concerns and documentation of actual risks;
- A contaminant database being developed through Columbia University; and
- Community outreach, including coping methods for terror, case studies of public health response to WTC, and public forums.

Dr. Thompson listed the goals of the NIEHS work:

- To determine the incidence on new-onset asthma and other respiratory symptoms after 9/11 in persons living near the WTC site compared to a control area; and
- To determine the lung function of residents with new-onset respiratory symptoms after 9/11.

Dr. Thompson presented some of the results of these studies, including respiratory effects in workers and pregnancy outcomes.

Panel Discussion

McVay Hughes indicated that she had difficulty using the Columbia University database. Thompson thought it was operational and indicated that she would look into that issue. McVay Hughes asked if NIEHS would fund any additional studies than those funds that were previously allocated. Thompson thought that unless Congress appropriated additional funding, she did not think this work would be able to continue.

Maddaloni noted that these programs address unmet health needs, which is one goal of this technical panel. As such, he thought that funding additional studies would meet the goals of the panel.

Markowitz asked Thompson if the NIEHS registry has been successful and how these data overlap with the ATSDR registry. Thompson indicated that the success of the program depends on the union response, which has been quite variable.

An audience member asked Thompson about data collected for 200 potentially toxic chemicals that were planned for release and then not released by Dr. Chris Portier from NIEHS. Thompson was not quite sure of the status of these data. Gilman and Lioy agreed that Thompson should check the status of these data and report back to the group.

McVay-Hughes suggested that a CBPR process would be useful for these data collections. Thompson agreed. McVay-Hughes recognized the importance of quality assurance and peer review of data; however, she asked if there was some way to report some of these data to the community as soon as possible. Thompson agreed that it is important to report the results; however, the nature of the study requires time for review.

8. PRESENTATION FROM REPRESENTATIVE OF THE LOWER MANHATTAN DEVELOPMENT CORPORATION (LMDC)

Irene Chang, General Counsel for LMDC

Ms. Chang stated she was asked to speak about the plan for 130 Liberty Street, known as the Deutsche Bank building. As part of the planning and environmental review of the WTC area, the parcel at 130 Liberty Street has been identified as a potential rebuilding site.

Chang stated that LMDC has been working with its partners to acquire the Deutsche Bank building from Deutsche Bank and its holding company. This building will be sold to LMDC as part of the mediation resolution for the site. LMDC will acquire the building; arrange for testing, decontamination and deconstruction of the building; and provide for the replacement of the building and parcel in accordance with LMDC's plans for the redevelopment of the WTC site. LMDC has not yet acquired the building but expects to do so before the end of the summer.

As part of the preacquisition process, LMDC retained Louis Berger, an environmental consulting firm, to review the contamination data that were made available to LMDC as part of the mediation and litigation process. LMDC asked Louis Berger to also examine and test the building for asbestos or other contaminants in the building, and LMDC will share that report with EPA and DEP when it is received from Berger.

LMDC is planning to engage Gilbane Engineering to perform the deconstruction following all legal requirements. After all of the testing of dust and debris is completed, Gilbane would be responsible for the deconstruction and cleanup.

The dust in the building may not meet the legal definition of asbestos-containing material (ACM); however, LMDC anticipates they will remove the dust and dispose of it according to ACM requirements even if the legal definition of ACM is not met. If the testing indicates that the dust or debris exceeds the concentrations for other hazardous materials, then the materials will be removed, stored, and disposed of in compliance with all legal requirements for such substances.

LMDC plans to meet with DEP and EPA about this project, and will set up monitoring to ensure compliance with all applicable regulations. Additionally, LMDC will require that Gilbane and all other contractors comply with applicable OSHA requirements.

Question and Answers/Discussion

Protecting Workers and Residents

An audience member asked how LMDC plans to protect the residents and workers downtown during the demolition or deconstruction of Deutsche Bank. Chang answered that LMDC has been consulting with DEP and EPA on this project and applied for all of the relevant permits. LMDC and its contractors are required to conform to OSHA

standards. The dust will be treated as if it were ACM. An audience member asked if the deconstruction effort would be bound by the Port Authority regulations and guidelines. Chang answered that the insurance company identified the deconstruction contractor and she was not aware of the terms of the contract. Stellman noted that LMDC has agreed to follow applicable standards, but there are not applicable standards in existence for this particular situation.

Data Availability

Newman asked for clarification that LMDC is in the process of acquiring the building and the consulting group, Louis Berger, is engaged in evaluating the available data to date. Chang answered that Louis Berger has been a consultant for some time and prepared the EIS for the site. Louis Berger has reviewed the data that were made available by Deutsche Bank and the insurance company, and Louis Berger also collected samples themselves.

Newman asked for clarification of the status of the data, noting that LMDC is a public company and as such would have to share the data with the public. Therefore, Newman asked what LMDC's plans are for sharing that data. Chang answered that there was a large amount of data collected. Chang noted that there has been activity in the building since the previous testing was conducted, and therefore LMDC felt it necessary to collect and analyze additional samples. They are currently completing that process. Chang further clarified that because the sale of the building is incomplete, LMDC is not in a position to share that data since they do not yet own the data.

Wilkenfeld commented that he thought if the building were not very contaminated then they would not be deconstructing the building. He asked why LMDC does not release the data if the building has been cleaned substantially, and noted that public distrust developed now will not provide any benefit down the road. Chang stated they are deconstructing the building because they are reconfiguring the site. She further commented that the data is not owned by LMDC at this point due to the impending transfer of the property. Wilkenfeld asked for clarification if LMDC will release all of the data once the sale is final, and Chang noted that they might make the data available at that time.

An audience member asked Chang how much time the community will be provided to review the data prior to the initiation of the deconstruction. Chang answered that they hope to have the data finalized within the next month and then will move forward from there.

An audience member asked if LMDC has asked Deutsche Bank to release the data, and Chang answered that they have not asked Deutsche Bank to release the data since Deutsche Bank asked LMDC for the agreement not to release the data. The audience member noted that Deutsche Bank told the community that LMDC required the confidentiality agreement, and suggested that another public meeting be held between Deutsche Bank and LMDC to clarify this question. Chang stated that LMDC has been

committed to following the law and conducting the deconstruction with due consideration for the contamination in the building.

Community Concerns and Input

Lioy noted the community's previous presentation of their concerns about Deutsche Bank, and commented that they had valid questions. He asked if LMDC would use a formal process to address these questions. Chang answered that she was not aware of those issues. Lioy suggested that LMDC obtain a copy of their presentation. Chang commented that LMDC is very concerned with the community concerns and is meeting all applicable requirements for the deconstruction. LMDC has the EIS and is committed to take appropriate actions, and she noted that LMDC is still negotiating the details of this effort. She noted that information will be posted on their website. Stellman commented that LMDC might want to utilize CBPR in this effort to maximize the input from the community and better communicate about the dangers of this undertaking.

Testing Protocol

An audience member stated they were present at a community meeting where Gilbane (the deconstruction contractor) noted that there would be 25 trucks per day at the site to deconstruct the building. The audience member asked the Gilbane representative what contaminants they were testing for, and they listed asbestos, dust, and building materials, but not the contaminants of concern. Chang stated that LMDC would consider releasing the testing protocol to the community.

Chang stated that it might be helpful to go over the protocol. She noted that Berger has conducted an extensive evaluation and they are working out the technical details of the deconstruction effort.

An audience member asked for clarification if LMDC plans to use ACM abatement procedures to deconstruct the building. Chang answered that Louis Berger is not conducting the deconstruction; however, Gilbane was planning to use ACM procedures and will complete a final plan upon Louis Berger's testing results.

EPA Involvement

McVay Hughes commented that given the panel and community concerns, they would appreciate EPA's involvement in this LMDC process. Evangelista stated that EPA shares the community concerns, and fully expects the building owner to comply with the regulations and requirements. EPA plans to engage the local, state, and federal partners to discuss how they should be involved with this process. For example, last Thursday EPA sent an unannounced inspector to the site, and there are plans to meet with DEP and other agencies to discuss addressing these concerns. Evangelista noted that there has been ongoing work in the building, such as the removal of furniture.

Radhakrishnan provided additional clarification of DEP's involvement at the site. An audience member asked if DEP or EPA was aware that there were materials being removed from the building in the middle of the night, and the workers were instructed not to speak to the nearby residents about their activities. Radhakrishnan stated he had no knowledge of this activity, but DEP's understanding is that removed materials are decontaminated.

Other Comments

D'Andrea asked when the EIS for the site was completed. An audience member commented that the generic EIS that was done for the site may have looked at Deutsche Bank but was general to the WTC area. She noted that this deconstruction could trigger an EIS for the particular site given the significant environmental effects. Chang commented that LMDC believes that the EIS was comprehensive, and they had documents specific to 130 Liberty Street relating to the nature of the site.

9. PUBLIC COMMENTS

Two public comment sessions were held during the meeting: from 11:15 a.m. to 12:25 p.m. (scheduled from 11:10 a.m. to 12:00 p.m.) and from 5:00 p.m. to 5:50 p.m. (scheduled from 4:30 p.m. to 5:15 p.m.) The following members of the public made comments to the panel:

Micki Siegel de Hernandez
Mary Perillo
Robert Gulack
Jenna Orkin
Suzanne Mattei
Michael Edelstein
Marjorie Clarke
Indira Singh
Komilla John
Caroline Martin
Marc Ameruso
Kathleen Bachand
Barbara Caparole
Kathleen Moore
Craig Hall
Rachel Lidov
Kimberly Flynn
Michael Edelstein

Comments that were received in writing are provided in Attachment B to this report.